

Geothermal Zone Identification Criteria

- **Identify Resource Quality**
 - **Estimate of basic energy resource potential**
 - **Thermal resource potential will be estimated based on heat flow and temperature depth trends, and possible reservoir areas**
 - **Data may come from primary or secondary sources**
 - **Resource quality will be measured in gross generating capacity (MW)**
 - **Estimate of electrical energy potential**



- **Generating Capacity** will be an estimate of near-term generating capacity (<10 years) and long-term generating capacity (10-20 years)
- **Identify Extent of Zone**
 - **Zone identification** will identify the following potential zoning restrictions: Sensitive lands, e.g., federally designated wilderness and wilderness study areas; state and national parks
 - **Water quality/rights**

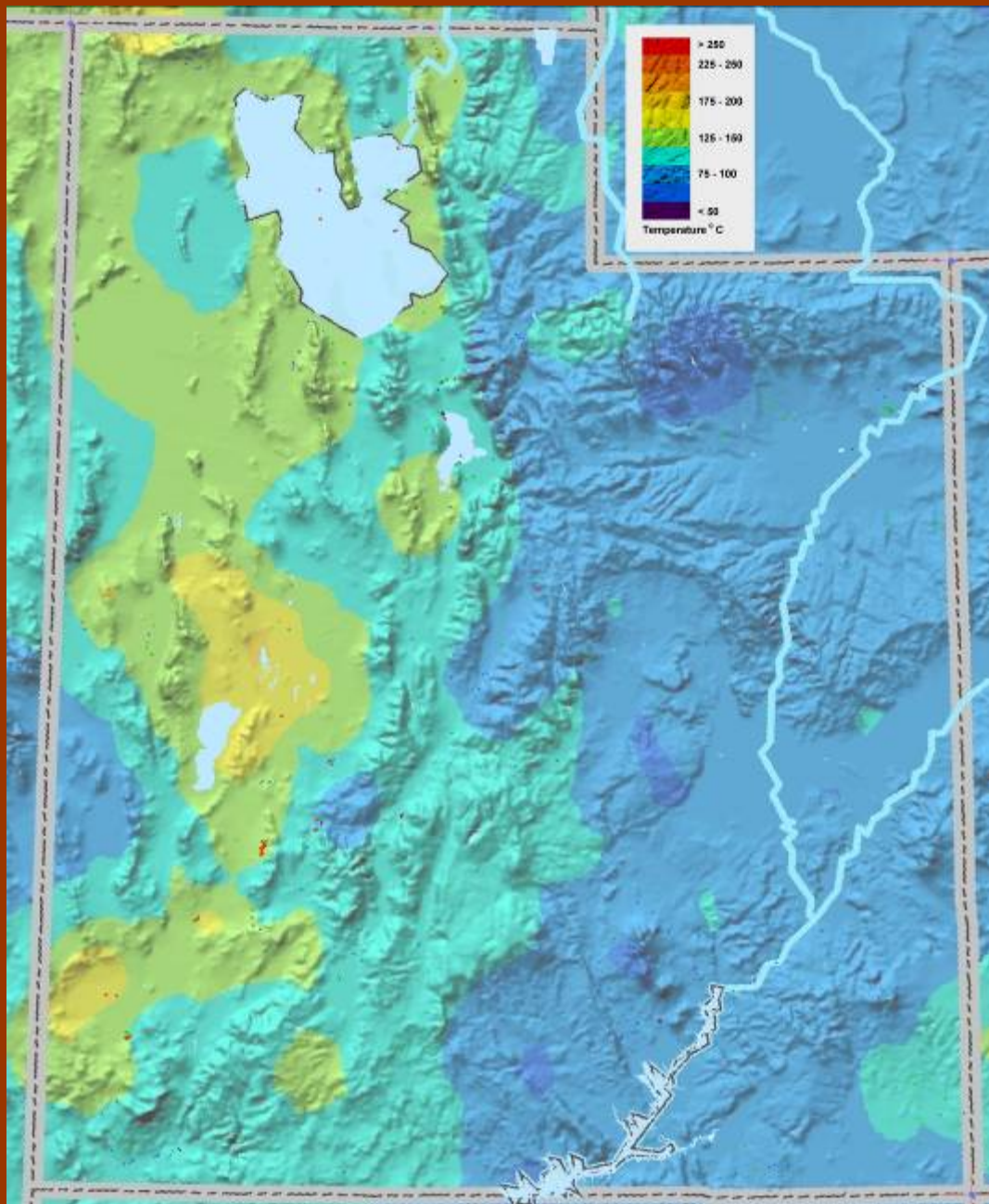
APPROACH

- **Inventory known or suspected moderate- to high-temperature geothermal systems (accessible depths)**
- **Determine most likely to undergo development – near-term, long-term**
- **Estimate resource parameters (reservoir temperature, volume, porosity, etc.)**
- **Apply general reservoir model (Bloomfield)**
- **Estimate potential for unknown, but suspected geothermal resources (northwest Utah, Great Salt Lake-Wasatch Front, etc.)**
- **Assign value (~ 5 MWt) for individual springs/wells (Nevada example)**

Energy Assessment

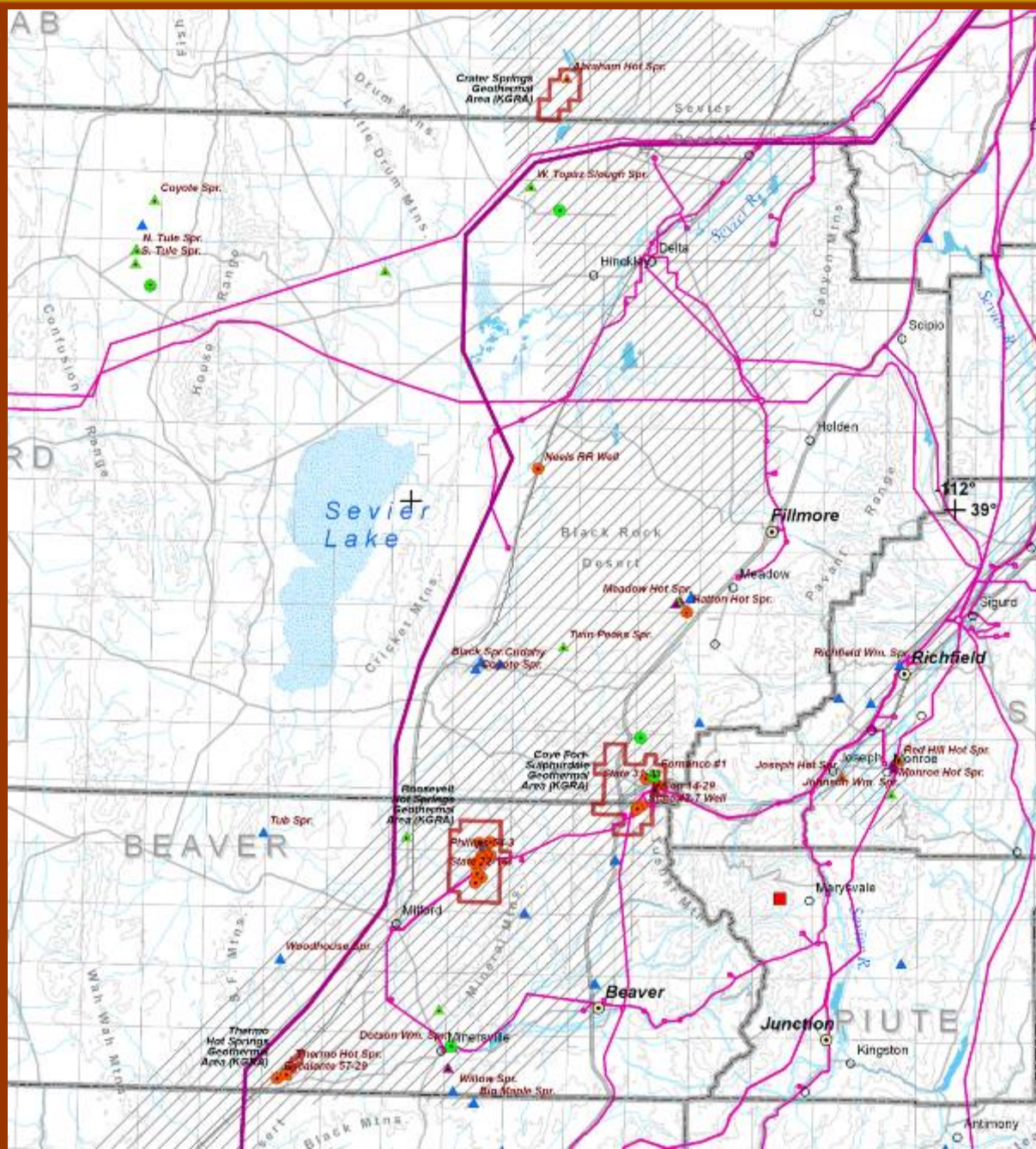
Resource temperature	150.0	deg C	
Resource pressure	50.0	Bar	
Resource porosity	0.1	fraction	
Resource Enthalpy	635.1	kJ/kg	look up
Water specific volume	0.0	m3/kg	look up
Energy water	58396.9	kJ/m3	Calculated
Conversion efficiency	0.2	fraction	
Useable water energy	8759.5	kJ/m3	Calculated
energy electric	3599.9	kJ/kw	
electric per reservoir volume	2.4	kw	Calculated

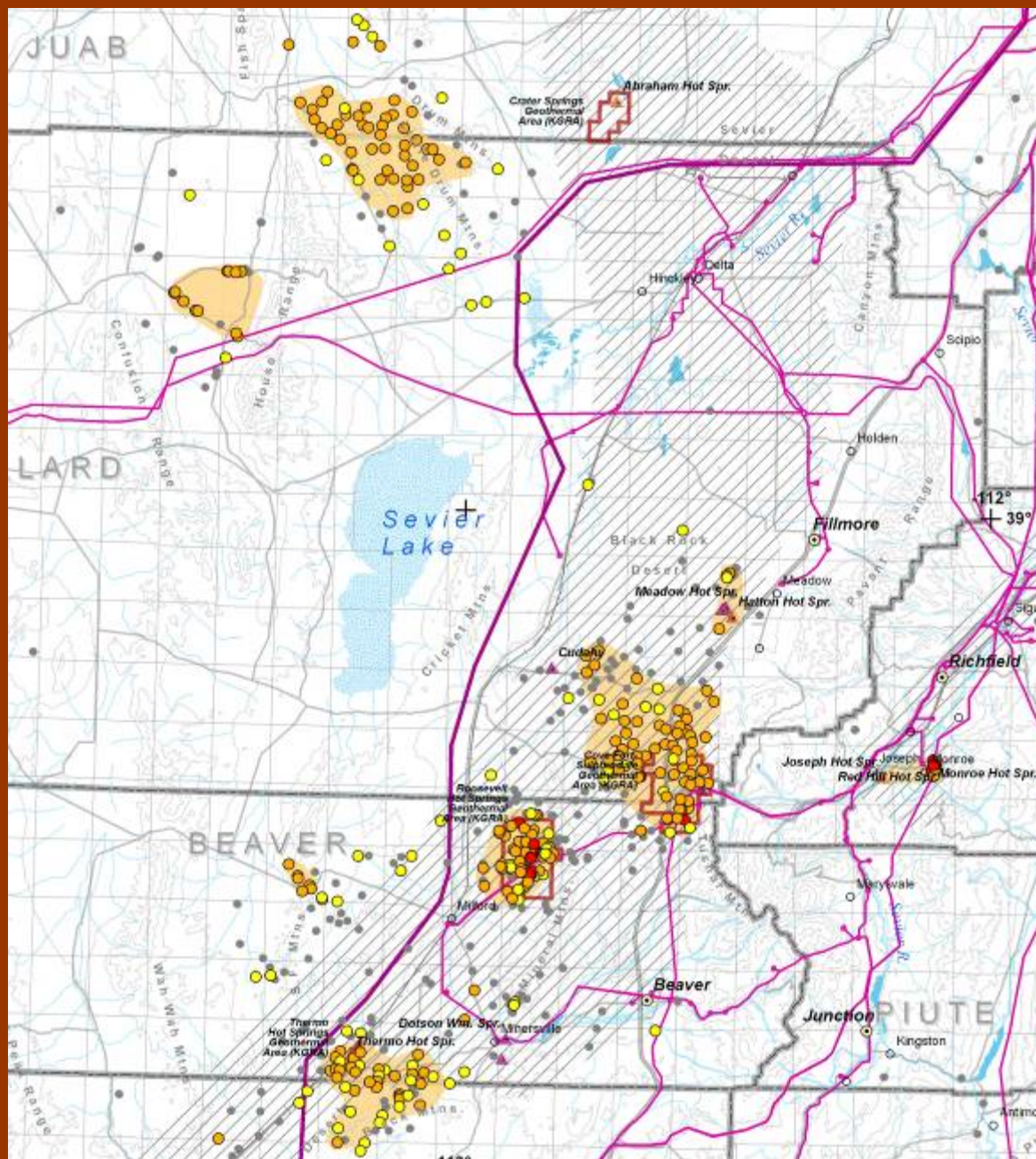
Source: Kit Bloomfield



TEMPERATURES AT 3 KM DEPTH

Known Geothermal Resources





Thermal Gradient Data

Other sources:

- **WGA Geothermal Task Force Report**
- **GEA Report – Utah Development Needs (Fleischmann)**
- **GeothermEx – RETI (California Energy Commission)**
- **GeothermEx/Raser – Thermo**
- **INL studies (Roosevelt, Cove Fort)**